



Initial Product/Process Change Notification

Document #: IPCN24832X

Issue Date: 30 Sep 2022

Title of Change:	External Solderable Top Metal fab process qualification at onsemi Aizu fab location.		
Proposed First Ship date:	03 Feb 2023 or earlier if approved by customer		
Contact Information:	Contact your local onsemi Sales Office or Don.Beeman@onsemi.com		
PCN Samples Contact:	Contact your local onsemi Sales Office. Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.		
Type of Notification:	This is an Initial Product/Process Change Notification (IPCN) sent to customers. An IPCN is an advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary reliability qualification plan. The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCN). This IPCN notification will be followed by a Final Product/Process Change Notification (FPCN) at least 90 days prior to implementation of the change. In case of questions, contact < PCN.Support@onsemi.com >		
Marking of Parts/ Traceability of Change:	Changed material can be identified by date code		
Change Category:	Wafer Fab Change		
Change Sub-Category(s):	Material Change		
Sites Affected:			
onsemi Sites	External Foundry/Subcon Sites		
onsemi Aizu, Japan	None		
onsemi, Gresham United States			
Description and Purpose:			
	From	To	
STM Site	onsemi Gresham	onsemi Gresham, onsemi Aizu	
There is no product marking change as a result of this change.			
Qualification Plan:			
QV DEVICE NAME: NRVTS1545EMFST1G (QV1)			
PACKAGE: 0606 CLIP DFN 8 5*6*1MM PBFR			
Test	Specification	Condition	Interval
HTRB	JESD22-A108	Tj = Max rate Tj for device, BV bias = 100% of max rated Bias check required NVMF55113PLT1G (QV1) Tj=175C NVTFS5116PLTWG (QV2) Tj=175C NRVTS44100ET3G (QV3) Tj=175C	1008 hrs
HTGB	JESD22-A108	Ti = Maximum rated junction temperature Vgss Bias = 100% of max rated	1008 hrs



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HTSL	JESD22-A103		Ta =Max rate storage temp for device	1008 hrs
PC	J STD 020A, JESD22-A113		IR reflow at 260C	
(PC) + HAST	JESD22-A110		Temp = 130C, 85% RH, P= ~ 18.8 psig, BV bias = 80% of rated V Bias check required	96 hrs
(PC) + TC	JESD22-A104		Temp = -55°C to +150°C	1000 cyc
(PC) + uHAST	JESD22-A118		Temp = 130C, RH=85%, ~ 18.8 psig	96 hrs
(PC) + IOL	MIL STD750, M 1037 Q101	AEC	Ta=+25°C, deltaTj=100°C max, Ton=Toff= 2 min	15000 cyc
SAT	12MSB17722C		12MSB17722C	pre and post MSL
CDPA TCDT	AEC Q101, rev D, test 7A (alt)		Automotive - Post 1x TC Automotive + Cu wire - Post 1x TC	per AEC Q101
CDPA SAT Post 1x Stress	12MSB17722C		Automotive - Post 1x HTRB, HTGB Automotive + Cu wire - Post 1x HTRB, HTGB, HAST - Post 2x HAST, TC	per guidelines 12MSB17722C
DPA	AEC-Q101-004 Section 4		Automotive - Post 1x HTRB, HTGB, TC Copper wire - Post 1x TC, HAST Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC	AEC-Q101-004 Section 4
CDPA WP BS	12MSB17722C		Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC	per guidelines 12MSB17722C
CDPA SMx Solder Joint	12MSB17722C		Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC	per guidelines 12MSB17722C
CDPA X Section	12MSB17722C		Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC, HTSL - Post 2x HAST, TC, HTSL	per guidelines 12MSB17722C
CDPA Xray	12MSB17722C		Automotive - Post 1x HTRB, HTGB, TC	AEC-Q006
Shift	AEC Q101, 12MSB17722C		Automotive - Post 1x HTRB, HTGB, TC	AEC Q101, 12MSB17722C
ESD	12MSB17722C		HBM, CDM, IEC	SS per 17722



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QV DEVICE NAME: NVTFS5116PLTWG (QV2)

PACKAGE: 6510 | CLIP WDFN 8 3.3 CPR PBFH

Test	Specification	Condition	Interval
HTRB	JESD22-A108	Tj = Max rate Tj for device, BV bias = 100% of max rated Bias check required NVMF55113PLT1G (QV1) Tj=175C NVTFS5116PLTWG (QV2) Tj=175C NRVTS4100ET3G (QV3) Tj=175C	1008 hrs
HTGB	JESD22-A108	Ti = Maximum rated junction temperature Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta =Max rate storage temp for device	1008 hrs
PC	J STD 020A, JESD22-A113	IR reflow at 260C	
(PC) + HAST	JESD22-A110	Temp = 130C, 85% RH, P= ~ 18.8 psig, BV bias = 80% of rated V Bias check required	96 hrs
(PC) + TC	JESD22-A104	Temp = -55°C to +150°C	1000 cyc
(PC) + uHAST	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hrs
(PC) + IOL	MIL STD750, M 1037 Q101	AEC Ta=+25°C, deltaTj=100°C max, Ton=Toff= 2 min	15000 cyc
SAT	12MSB17722C	12MSB17722C	pre and post MSL
CDPA TCDT	AEC Q101, rev D, test 7A (alt)	Automotive - Post 1x TC Automotive + Cu wire - Post 1x TC	per AEC Q101
CDPA SAT Post 1x Stress	12MSB17722C	Automotive - Post 1x HTRB, HTGB Automotive + Cu wire - Post 1x HTRB, HTGB, HAST - Post 2x HAST, TC	per guidelines 12MSB17722C
DPA	AEC-Q101-004 Section 4	Automotive - Post 1x HTRB, HTGB, TC Copper wire - Post 1x TC, HAST Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC	AEC-Q101-004 Section 4
CDPA WP BS	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC	per guidelines 12MSB17722C
CDPA SMx Solder Joint	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC	per guidelines 12MSB17722C



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Issue Date: 29 Sep 2022

		Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC	
CDPA X Section	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC, HTSL - Post 2x HAST, TC, HTSL	per guidelines 12MSB17722C
CDPA Xray	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC	AEC-Q006
Shift	AEC Q101, 12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC	AEC Q101, 12MSB17722C
ESD	12MSB17722C	HBM, CDM, IEC	SS per 17722

QV DEVICE NAME: NRV TSA4100ET3G (QV3)

PACKAGE: 0344 | SMA PB FREE

Test	Specification	Condition	Interval
HTRB	JESD22-A108	Tj = Max rate Tj for device, BV bias = 100% of max rated Bias check required NVMF55113PLT1G (QV1) Tj=175C NVTF55116PLTWG (QV2) Tj=175C NRV TSA4100ET3G (QV3) Tj=175C	1008 hrs
HTGB	JESD22-A108	Ti = Maximum rated junction temperature Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta =Max rate storage temp for device	1008 hrs
PC	J STD 020A, JESD22-A113	IR reflow at 260C	
(PC) + HAST	JESD22-A110	Temp = 130C, 85% RH, P= ~ 18.8 psig, BV bias = 80% of rated V Bias check required	96 hrs
(PC) + TC	JESD22-A104	Temp = -55°C to +150°C	1000 cyc
(PC) + uHAST	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hrs
(PC) + IOL	MIL STD750, M 1037 Q101	AEC Ta=+25°C, deltaTj=100°C max, Ton=Toff= 2 min	15000 cyc
SAT	12MSB17722C	12MSB17722C	pre and post MSL
CDPA TCDT	AEC Q101, rev D, test 7A (alt)	Automotive - Post 1x TC Automotive + Cu wire - Post 1x TC	per AEC Q101
CDPA SAT Post 1x Stress	12MSB17722C	Automotive - Post 1x HTRB, HTGB Automotive + Cu wire	per guidelines 12MSB17722C



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		- Post 1x HTRB, HTGB, HAST - Post 2x HAST, TC	
DPA	AEC-Q101-004 Section 4	Automotive - Post 1x HTRB, HTGB, TC Copper wire - Post 1x TC, HAST Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC	AEC-Q101-004 Section 4
CDPA WP BS	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC	per guidelines 12MSB17722C
CDPA SMx Solder Joint	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC	per guidelines 12MSB17722C
CDPA X Section	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC, HTSL - Post 2x HAST, TC, HTSL	per guidelines 12MSB17722C
CDPA Xray	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC	AEC-Q006
Shift	AEC Q101, 12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC	AEC Q101, 12MSB17722C
ESD	12MSB17722C	HBM, CDM, IEC	SS per 17722

List of Affected Parts:

Note: Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the [PCN Customized Portal](#).

Part Number	Qualification Vehicle
NTTFS5116PLTWG	QV1 + QV2 + QV3
NTTFS5116PLTAG	QV1 + QV2 + QV3
NTS860MFST1G	QV1 + QV2 + QV3
NTS1545MFST3G	QV1 + QV2 + QV3
NTS12100MFST3G	QV1 + QV2 + QV3
NTS12100MFST1G	QV1 + QV2 + QV3
NTS12100EMFST3G	QV1 + QV2 + QV3
NTS10120MFST3G	QV1 + QV2 + QV3



Initial Product/Process Change Notification

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Issue Date: 29 Sep 2022

NTS10100EMFST3G	QV1 + QV2 + QV3
NTMFS5113PLT1G	QV1 + QV2 + QV3
FDFS2P106A	QV1 + QV2 + QV3

Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
NTTFS5116PLTWG		QV1 + QV2 + QV3		
NTS12100MFST1G		QV1 + QV2 + QV3		
FDFS2P106A		QV1 + QV2 + QV3		
NTTFS5116PLTAG		QV1 + QV2 + QV3		